

## ASSIGNMENT 5

Textbook Assignment: "Plumbing Valves and Accessories" (continued) and "Plumbing Fixtures and Plumbing Repairs," chapters 4 and 5, pages 4-18 through 5-30.

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| <p>5-1. Pipe insulation is installed on pipe mainly to prevent which of the following problems?</p> <ol style="list-style-type: none"><li>1. The vibration at pipe joints</li><li>2. The passage of heat to or from liquids being carried in a nearby pipe</li><li>3. The need to paint the pipe for appearance and labeling</li><li>4. The pipe from wearing when placed in contact with surrounding surfaces</li></ol> <p>5-2. What are the two types of duct insulation?</p> <ol style="list-style-type: none"><li>1. Inside and outside</li><li>2. Fiber glass and cement-asbestos</li><li>3. Modular and elongated</li><li>4. Preformed and blown-in</li></ol> <p>5-3. What form of insulation provides protection from fire?</p> <ol style="list-style-type: none"><li>1. Rigid</li><li>2. Blanket</li><li>3. Preformed</li><li>4. Cork</li></ol> <p>5-4. What is the standard length of sponge felt paper?</p> <ol style="list-style-type: none"><li>1. 1 foot</li><li>2. 2 feet</li><li>3. 3 feet</li><li>4. 4 feet</li></ol> | <p>5-5. What type of insulation is made up of millions of uniform closed cells?</p> <ol style="list-style-type: none"><li>1. Fiber glass</li><li>2. Flex rubber</li><li>3. Wool felt</li><li>4. Sponge felt</li></ol> <p>5-6. What type of insulation keeps water colder in pipes than do most other kinds of insulation?</p> <ol style="list-style-type: none"><li>1. Frostproof</li><li>2. Flex rubber</li><li>3. Cork pipe</li><li>4. Antisweat</li></ol> <p>5-7. What type of insulation is composed of an inner layer of asphalt-saturated asbestos paper, a 1/2-inch layer of wool felt, two layers of asphalt-saturated asbestos felt, another 1/2-inch layer of pure wool felt, and an outer layer of deadening felts with asphalt-saturated felts?</p> <ol style="list-style-type: none"><li>1. Antisweat</li><li>2. Frostproof</li><li>3. Wool felt</li><li>4. Sponge felt</li></ol> <p>5-8. Trenches should have their sides supported or protected by sloping when they are deeper than how many feet?</p> <ol style="list-style-type: none"><li>1. 5</li><li>2. 6</li><li>3. 3</li><li>4. 4</li></ol> |
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- 5-9. Lateral travel to an exit ladder within a trench should not exceed what distance?
1. 25 feet
  2. 50 feet
  3. 75 feet
  4. 100 feet
- 5-10. There is a total of how many primary categories of scaffolds?
1. One
  2. Two
  3. Three
  4. Four
- 5-11. The working load on a medium-duty scaffold must not exceed how many pounds per square foot of platform surface?
1. 25
  2. 50
  3. 75
  4. 100
- 5-12. The grade of a wastewater line should be installed so the wastewater moves at not less than how many feet per second?
1. 1
  2. 2
  3. 3
  4. 4
- 5-13. Scouring and damage to the pipe may happen when wastewater moves more than how many feet per second?
1. 6
  2. 7
  3. 8
  4. 9
- 5-14. On an inverted siphon, the wastewater should move at least how many feet per second?
1. 1
  2. 2
  3. 3
  4. 4
- 5-15. Manholes should be installed how many feet apart on a straight run of pipe up to 59 inches in diameter?
1. 200 to 400
  2. 250 to 450
  3. 300 to 400
  4. 350 to 450
- 5-16. The pipe for a wastewater system should be layed with the bell end on what grade, if any, to have a good joint?
1. Upstream
  2. Downstream
  3. Cross stream
  4. None
- 5-17. If you should run into a rock at the grade you are laying the pipe, you should cut the trench how many inches below the grade before backfilling it with sand?
1. 5
  2. 6
  3. 3
  4. 4
- 5-18. After the pipe has been tested, you should backfill the trench in layers of
1. 5 inches
  2. 6 inches
  3. 7 inches
  4. 8 inches

5-19. What is the largest tap that can be made in a main under pressure?

1. 1 inch
2. 2 inches
3. 3 inches
4. 4 inches

5-20. The tap is normally in what location on a water main?

1. Right side
2. Left side
3. Bottom
4. Top

5-21. The large-size lines that interconnect with smaller distribution mains are called the trunk main.

1. True
2. False

5-22. What system accessories are used for fire-fighting purposes?

1. Valves
2. Hydrants
3. Booster stations
4. Backflow preventers

5-23. You should install which of the following components to protect the water from contamination?

1. Booster valve
2. Main-line meter
3. Backflow preventer
4. Service connection

5-24. What type of branch is the best for water distribution?

1. Loop
2. Tree
3. Cross
4. Lateral

5-25. On branch mains, you should install the valve at what distance from the feeder?

1. 25 feet
2. 50 feet
3. 75 feet
4. As close as practical

5-26. A hydrant should be located approximately how many feet from a building?

1. 25
2. 50
3. 75
4. 100

5-27. When you are installing hydrants, the center of the lower outlet should not be less than how many feet above the surrounding grade?

1. 1
2. 2
3. 1.5
4. 1.75

5-28. What term describes the plumbing receptacles into which wastes are put before being discharged into the sewer?

1. Faucets
2. Pipes
3. Fixtures
4. Vent systems

5-29. The amount of water being discharged from a plumbing fixture per minute is measured in fixture units. How many gallons equal one fixture unit?

1. 5 3/4
2. 7
3. 7 1/2
4. 8 1/2

5-30. Refer to table 5-1 in the text. What number of fixture units are discharged by a head containing five water closets, three showers, five lavatories, and five urinals?

1. 52
2. 56
3. 61
4. 66

5-31. You should use what diameter of pipe to supply water to a urinal equipped with a flushing valve?

1. 7/8 inch
2. 3/4 inch
3. 1/2 inch
4. 3/8 inch

5-32. What type seal is commonly used between a water closet bowl and a water closet flange?

1. Putty
2. Concrete
3. Asbestos-cement
4. Preformed sealing ring

5-33. What is the advantage in supplying cold water to water closets by means of flush valves instead of closet tanks?

1. Repairs are easier to make
2. Reflushing is unnecessary
3. Less water is used for flushing
4. Less maintenance is required

5-34. Movement of the flush handle of a diaphragm flush valve starts the flushing action in the valve by

1. forcing the diaphragm down
2. opening the relief valve
3. opening the passage between the lower chamber and the supply line
4. raising the diaphragm off the flushing seat

5-35. In the piston type of flush valve, the piston returns to the closed position after flushing when the upper chamber fills with water through what component?

1. The main seat
2. The crown cover
3. The orifice tube
4. The handle coupling

5-36. When installing a kitchen sink, you should ensure the top of the drainboard is at least how many inches above the finished floor?

1. 30
2. 33
3. 36
4. 40

5-37. In just about all cases., domestic tub and shower combinations use what size of drain fittings?

1. 1 1/8 inch
2. 1 1/4 inch
3. 1 3/8 inch
4. 1 1/2 inch

5-38. The bathtub spout should be placed above the tub at a distance ranging between 2 inches to

1. 6 inches
2. 5 inches
3. 3 inches
4. 4 inches

5-39. Which of the following types of shower mixing valves do not allow for different pressures in the supply line?

1. Thermostatically controlled
2. Hydrostatically controlled
3. Manually controlled
4. Pressure controlled

5-40. What valve senses changes in both temperature and pressure?

1. Pressure controlled
2. Thermostatically controlled
3. Manually controlled
4. Pressure controlled

5-41. What is the most important requirement in a shower installation?

1. The type of mixing valve
2. The water pressure control
3. The spacing of the spout above the rim of the tub
4. The waterproofing of the walls and the floor

5-42. When a wall-mounted urinal is installed, the distance between the floor and the lip of the urinal should not exceed

1. 36 inches
2. 30 inches
3. 25 inches
4. 20 inches

5-43. The orifice of a drinking fountain should be at least what distance from the floor?

1. 45 inches
2. 40 inches
3. 35 inches
4. 30 inches

5-44. A 2-inch floor drain is rated at how many drainage fixture units?

1. One
2. Two
3. Three
4. Four

5-45. Domestic water heaters come in what sizes?

1. 20 to 50 gallons
2. 10 to 20 gallons
3. 10 to 30 gallons
4. 20 to 45 gallons

5-46. What feature of a water heater tank resists corrosion and prevents contamination of the water?

1. Galvanized sheet metal construction
2. Reinforced aluminum base
3. Corrosionproof combustion chamber
4. Composition glass tank lining

5-47. You can determine which pipe on a water heater tank is the inlet for the cold water or the outlet for hot water because

1. the cold water inlet pipe is the larger fitting
2. the cold water inlet pipe extends over halfway into the tank
3. the hot water inlet pipe extends over halfway into the tank
4. the hot water inlet pipe is the larger fitting

5-48. What is the purpose of the dip tube?

1. To allow cold water to go to the bottom of the tank
2. To allow hot water to go to the top of the tank
3. To cool the water at the top of the tank
4. To heat the water at the top of the tank

5-49. To aid in proper repair of breaks in water distribution systems, you must determine current conditions of the system by referring to which of the following sources?

1. Red-line blueprints of the system
2. The installer of the system
3. A system monitoring system
4. Trained personnel

5-50. When flushing a water distribution system, you should begin

1. at hydrants near the dead ends of the system
2. at the hydrants nearest the point of supply
3. at the building closest to the source of supply
4. at a hydrant that is convenient

5-51. Water main breaks require the rapid response of maintenance personnel. What precaution should you take before such an emergency occurs?

1. Ensure a recall bill is available and everyone is trained
2. Ensure everyone is trained and the public works officer is notified
3. Ensure the public works officer is notified and a recall bill is available
4. Ensure repair plans are made and everyone is trained

5-52. Small leaks in water mains can be temporarily plugged with what type of material?

1. Wood
2. Brass
3. Copper
4. Lead

5-53. What must you do before trying to thaw a frozen water pipe?

1. Isolate the section to be thawed
2. Open all valves affected by the frozen section
3. Remove valves in the frozen section
4. Secure all valves affected in the frozen section

5-54. To thaw a frozen pipe, you should apply heat at what general location?

1. At either end of the section
2. At the center of the pipe
3. At the lowest open end of the frozen section
4. At an easily accessible section of the pipe

5-55. Under what condition may an open flame from a blowtorch be used to thaw a waterline?

1. There is no danger of fire
2. The line is less than 1 inch in diameter
3. The line is not made of copper
4. There is some water flow

5-56. When using a funnel and a tube to thaw a pipe with hot water, you should hold the funnel above the level of the frozen section of pipe for which of the following reasons?

1. To allow more hot water to be used
2. To give the hot water a head
3. To make it easier to pour the hot water
4. To prevent cold water from backing up into the tube

5-57. To thaw a frozen pipe electrically, you should apply electricity for what length of time?

1. About 30 minutes
2. Until the water begins to flow
3. About 1 hour
4. Until the water flows freely

5-58. What device controls the amperage in an alternating-current circuit to thaw a frozen pipe?

1. Rheostat
2. Thermostat
3. Transformer
4. Thermister

5-59. Electrical thawing has what primary advantage over steam thawing?

1. It is faster
2. It is safer
3. It is cheaper
4. It is easier

5-60. When the water pressure varies frequently, you should check what factor first?

1. The size of the water main
2. The pressure carried on the main line
3. The diameter of the pipes in relation to their length and height
4. The source of supply

5-61. If the pressure at a shower changes only when other outlets are open, you can usually correct the trouble by

1. removing lime and corrosion inside the pipes
2. installing automatic mixing valves
3. changing the fittings leading to the shower
4. replacing the pipe leading to the shower with larger piping

5-62. Fractures caused by water hammer usually occur at what location?

1. At the end of the pipe
2. In the middle of the pipe
3. In the fitting attached to the pipe
4. At various locations in the pipe

5-63. You have found a leak in a piece of galvanized pipe, but the nearest fitting at one end of the pipe is in a concrete wall. You should repair the leak in which of the following ways?

1. By cutting out the defective piece of pipe, rethreading the end of the pipe extending out of the wall by using a pipe wrench and a hand-type threader, and replacing the piece of pipe by using a union and a coupling
2. By cutting out the bad piece of pipe and replacing it by welding one end
3. By cutting out the bad piece of pipe and replacing it by using a piece of rubber hose to connect near the inaccessible fitting
4. By abandoning the existing pipe and installing a new piece

5-64. A leaky pipe may be repaired for temporary use by which of the following means?

1. Wrapping the leaky area with sheet rubber
2. Placing a sheet metal clamp on each side of the pipe over a sheet rubber covering
3. Fastening the sheet metal clamps in place with bolts and nuts
4. Each of the above

5-65. What are the two most common kinds of failure in water tanks?

1. Lining ruptures and accumulation of scale
2. Leaky seams and corrosion
3. Lining ruptures and corrosion
4. Leaky seams and pressure ruptures

5-66. What type of material should be used for permanent water tank patching?

1. Black steel
2. Any nonferrous metal
3. Metal that matches the tank wall in thickness and type
4. Any metal with the same thickness as that of the tank wall

5-67. The plunger in the inlet valve assembly of most flush tanks is opened by

1. lowering the float arm
2. raising the float arm
3. lowering the stopper ball
4. raising the stopper ball

5-68. Trouble in the ball cock assembly of a water closet is indicated by which of the following conditions?

1. An empty tank and no flushing
2. A full tank and incomplete flushing
3. A full tank and continuous running
4. An empty tank and continuous running

5-69. Normally, a flush tank should empty within what period of time?

1. 5 seconds
2. 10 seconds
3. 15 seconds
4. 20 seconds

5-70. What condition most likely exists if a water tempering valve has been installed on a flush tank?

1. Slow filling of the flush tank
2. Excessive water used in flushing
3. Condensation dripping from the exterior of the flush tank
4. Low water pressure entering the flush tank

5-71. What are the two most common problems with flushometer valves?

1. Intermittent flushing and long flushing
2. Intermittent flushing and short flushing
3. Long flushing and continuous flushing
4. Continuous flushing and short flushing

5-72. What is the primary reason for installing flush valves?

1. To enable automatic flushing
2. To avoid wasting water
3. To save maintenance costs
4. To improve sanitation



5-73. The closing of a piston-type flush valve is regulated by

1. the spring located in the handle
2. a screw that controls the amount of time the valve stays open
3. loss of pressure in the dashpot
4. the water pressure entering the valve

5-74. Unneeded lubrication of components or damage to the bypass tube are probable causes of which of the following problems?

1. Continuous flushing
2. Leaking closet flange
3. Irregular flushing
4. Short flushing